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ABSTRACT

This paper describes a method of analyzing audio-taped communicative events recorded in the fall and winter of a school year (1975-1976) in two kindergarten classrooms, and reports the results of an investigation of classroom communicative process. Three levels of analysis were developed to measure (1) number and kind of recorded conversational components, (2) functional properties of conversational components, and (3) specific syntactic and semantic properties and contextual qualities of individual regulative conversational components. These measures defined four categories of seasonal, sex, teacher, and school differences between the two kindergarten settings under investigation. (MS)

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Social Control and the Process of Schooling: A Study of Socialization of Kindergarten Children in Two Settings

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The business of socialization in a formal institutional setting begins for most of us in the kindergarten classroom. It proceeds throughout our school experience and hounds us into adult life in the course of our interactions as organization men and women. The principal task facing the individual participant in informal and formal group interaction is the acquisition of the competency necessary to interpret "social events and structures in common with others." (Cook-Gumperz, 1974: 7) The fully socialized individual is one who can behaviorally express and verbally articulate commonly accepted group norms for behavior.

The child's growing capacity to respond to, adapt to, and act upon a social environment enables him to "produce and perform social order." (Ibid) The child's skill in social production and performance is in large part dependent upon his communicative competence, (Hymes, 1974) his ability to use language pragmatically in a variety of social groups.

Prior socialization within the family has critical bearing here. (Bernstein, 1971; Cook-Gumperz, 1975; Bearison and Cassel, 1975; Tough, 1976) Nonetheless, empirical evidence documenting family context variables with a clear, consistent effect upon children's social competencies is lacking. Some recent research (Wells, 1975) focused upon naturally occurring interaction between mothers and their young children casts doubt upon that old reliable, social class

as a revealing variable. Though birth order was a predictor of conversation production, both social class and sex of the Bristol children observed by Gordon Wells at three age periods (16,21 and 27 months) were not explanatory factors. The power of birth order successfully to predict communication skills has not been consistently documented, however. In fact, there are few family background variables whose predictive power we can implicitly trust.

Even less is known about the effect of different formal institutional arrangements upon children's developing communicative skills. For example, the open classroom format promises evaluation of children according to personalized objectives in contrast to traditional classroom practice which emphasizes the child's membership in the group. (Minuchin et al, 1969) However, whether or not open classroom children actually participate in structuring social situations according to principles of open classroom pedagogy is quite another question.

Both family and classroom socialization contexts perform the important work of inculcating specific language and value codes. The language used to control or regulate behavior is the vehicle for the transmission of a moral position. Most simply, a child may be oriented towards a person code that emphasizes thoughts, needs and feelings of self and others or to a position code that emphasizes status or normative features of self and others. (Bernstein, 1971) The work done by Bernstein and his followers (Bernstein, 1971; Cook-Gumperz, 1975; Bearison and Cassel, 1975) has described the

association with social class of either the person or position code. According to Bernstein's theory, middle class families are likely to foster development of a person value code while working class families are likely to foster a position orientation.

Some research and criticism of Bernstein's work questions the association of code with class. (Rosen 1974; Wells, 1975) While value orientations can be identified as personal or positional by examining the nature of the rationale used in regulating a child's behavior, it is not clear that either a person or a position orientation is necessarily associated with a social class group across all situational contexts. In fact, there may be considerable variability. Middle class parents are notably mainipulative in their verbal regulation of children's behavior (Sroufe , 1971). It is conceivable that a middle class child hears the full range of appeals fairly consistently as the parents seek to monitor and channel behavior. What we don't know is which codes may be consistently related to particular family or school settings. What we are beginning to understand are some approaches, some methodologies which allow researchers to measure verbal manifestations of the moral code parents, teachers, and other children use to regulate behavior.

I wish to focus upon a method for analyzing the meaning or functional properties of language used to regulate behavior in formal settings. This method could as well be used to document meaning components of regulative language in family settings.

Empirical Research on Language Meaning

Interpretation of language meaning is a central issue to empirical work analyzing transmission of value codes. What gives the data coder the right to ascribe certain meanings or functions to utterances emitted by children and their teachers or parents in a socialization context? The answer to that question is not simple. In fact, close analysis of issues surrounding the use of language in everyday speech to construct social order is well outside the central concern of this paper. [1]

Fortunately for empiricists, Gordon Wells, a language researcher, has rushed in where philosophers of language have feared to tread. In addressing the problem of interpretation of semantic properties of language, he has said:

> What we are attempting to code is the meaning intended by the speaker; but surface form and contextual information do not always provide sufficient evidence for one to be certain about the interpretation to put on an utterance... However, as no other way of ascertaining meaning is possible with respect to spontaneous speech, we have to rely on our adult intuitions about the evidence available in deciding on what the child is trying to communicate. (Wells, 1975: 3)

Adults, particularly parents and teachers of young children, are continuously engaged in extracting meaning, deciphering the language code used by children with whom they interact. It seems acceptable to assess the "child's intended meanings... in the light of the

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1. Philosophic aspects of the issue are thoroughly exercised by Aaron Cicourel in Cognitive Sociology - book whose subtitle is "Language and Meaning in Social Interaction."

intuitions of mature speakers" if one can assume "no serious discontinuties with respect to the organization of meaning during the course of development."(Ibid: 4) Such an assumption is warranted given current understanding of the process of development in communicative competence.

Bernstein defines four critical domains or meaning-contexts in which family interactions occur. These domains are the recurrent contexts in which "transmission of the deep-meaning structure of a culture or subculture" takes place. (Turner, 1973: 138) The meaning-contexts are (1) the instructional, (2) the regulative, (3) the interpersonal, and (4) the imaginative-innovative. The four domains correspond to four categories used in the present research which in turn subsume the five domains investigated by Wells: (1) regulative (control), (2) imaginative-innovative-expressive (expressive), (3) instructional (representational and tutorial), and (4) interpersonal (social). Both systems derive from the linguistic analysis of M.A.K. Halliday (1973).

The instructional domain is concerned with representational knowledge. School learning tasks in addition to more descriptive, less formal information exchange are associated with the instructional domain. The regulative domain includes the language of social control. The thrust of language in this domain is toward the regulation of ongoing or future behavior. The interpersonal domain comprises language expressive of affective states. Emotionally charged language

descriptive of feelings together with more impersonal discussion of feelings characterizes language in this domain. Finally, language in the imaginative-innovative domain includes talk expressive of the fantasy of children's play as well as play with language. The expressive function of language characterizes utterances that are spontaneous, unreflexive, ejaculative reactions to provocative situations.

Domain defined in terms of the four categories presented here appears to have ecological validity in both the current research and in the recent research of Turner (1973) and Wells (1975a). In addition, Cazden has made the specific recommendation that language assessment of school children be carried out investigating language use in the aforementioned domains (1975). Nonetheless, the conceptual untidiness of this mode of classification should be acknowledged at the outset. There appears to be overlap between and among categories. Language with an interpersonal thrust can carry regulative or other overtones, a problem Wells addresses by categorizing children's language in terms of an overarching function or context and subfunctions (1975).

Wells obviously has boldly brushed aside problems in philosophy of language, linguistics, sociology, and cognitive psychology in formulating both a rationale for deciphering meaning and in constructing a model of the communicative situation. (See Figure 1) Wells' model is provocative because it dares to intrude into the

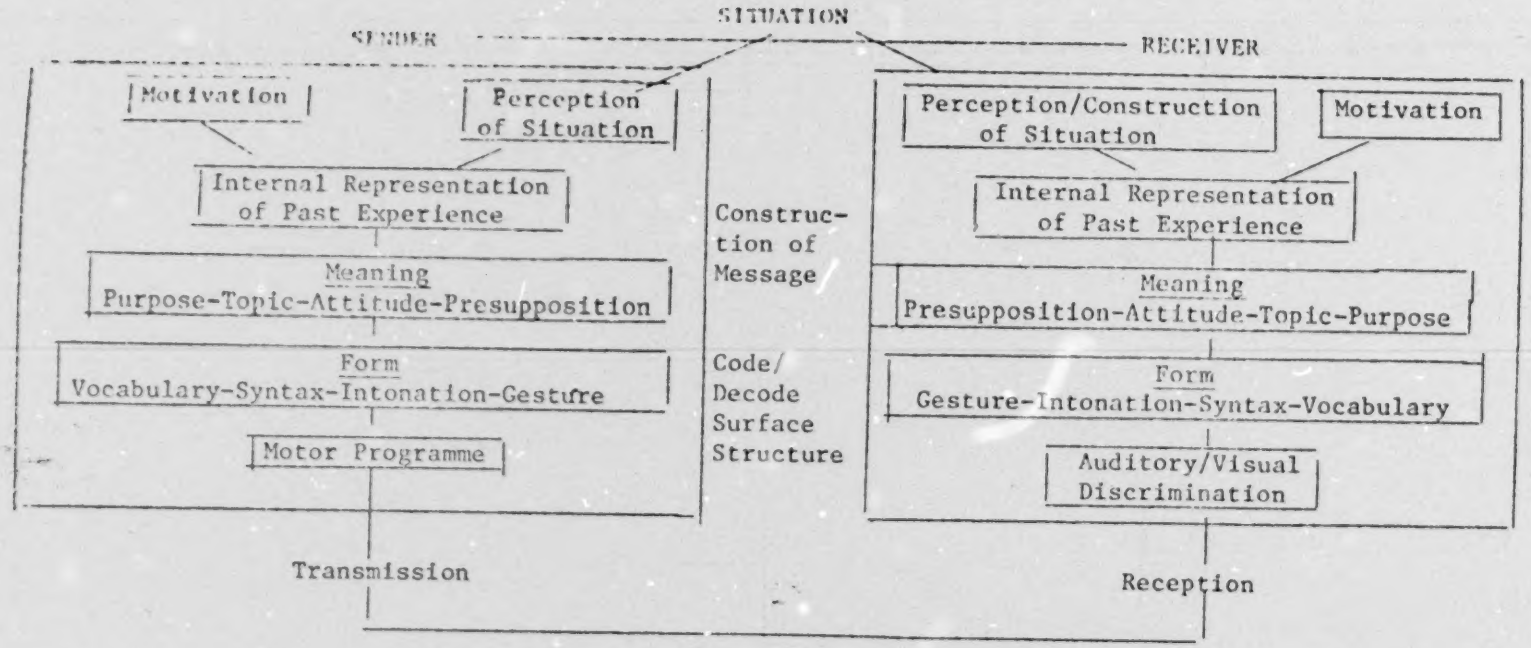

Figure 1

A MODEL OF THE COMMUNICATION SITUATION
(Wells, n.d.)

cognitive "black boxes" heretofore tagged by others as "speaker" and "listener" or "sender"and"Receiver". The model clarifies the tasks confronting participants in conversation by taking into account (1) psychological factors such as motivation and perception of the situation which color both message formulation and message interpretation, (2) linguistic factors such as syntax, vocabulary, (3) paralinguistic features such as gesture and intonation, (4) psycholinguistic factors related to coding and decoding of message properties, and (5) sociological factors related to the situation itself in which interaction is occurring. Of course, empirical research must content itself examining phenomonal and behaviorial components of the model. Clearly, the vital but interiorized component labeled "internal representation of past experience" represents a type of variable outlined in Wells' model that eludes investigation except in a most approximate manner.

In parsing components of meaning from naturally occuring conversation the focus is not upon <u>referential</u> meaning, but rather upon both <u>conveyed</u> meaning and <u>situated</u> meaning (Cook-Gumperz and Cosaro, n.d.) Domain or social use of language is "not represented directly in the language system, but rather...(it is)...represented <u>indirectly</u> ...(e.g., <u>conveyed</u>)...through a small set of functional components" or contexts (Turner, 1973: 138). "The acknowledgement of <u>conveyed</u> meaning recognizes that language does not have a one-to-one correspondence with an established order of objects but that words vary

with their use in context." (Cook-Gumperz and Cosaro: 9). Conveyed meaning is a particularly revealing notion in the analysis of language domain or function. Of more critical importance to the analysis of individual speech acts is the term situated meaning. Situated meaning refines the concept of conveyed meaning by taking into account the negotiated nature of conventional features of language use. For example, the utterance "I'm squished" used by a 5 1/2 year old speaker to regulate the behavior of classmates seated uncomfortably closely to her assumes the understanding of social and psychological features of the environment on the part of intended hearers of the remark.

In examining the conversation of children in two kindergarten settings, one an open setting, the other a traditional setting, it was expected that seasonal (fall v. winter), school program (open v. traditional) effects would be recorded. Finally, following Flapan's (1968) assessment of the literature, sex differences in communication patterns were expected. Research hypothesis formulated for the analysis of children's interactions were that: (1) All children would engage in more conversation in the winter than in the fall (2) Boys would initiate more conversation than girls (3) Open classroom children would engage in more interaction than traditional classroom children (4) Conversation function or domain would vary by program with open classroom children utilizing language expressive of interpersonal function (5) Conversation

function of a regulative nature would taper off (6) Conversation of an interpersonal and instructional nature would increase, (7) Conversation with an imaginative-innovative-expressive function would be low and stable over time (8) Open program children would tend to use personal appeals in the regulative domain, (9) Traditional classroom children would tend to use position appeals in the regulative domain, (10) All children would predominantly use language with no rationale for behavior in the regulative context.

Methods

The procedures outlined below were used in analyzing audio taped transcripts of children's interactions recorded during the course of the school day in two kindergarten classrooms. Both classrooms were located in public schools in a large midwestern city. These classrooms were in schools designated in the one case as the traditional option and in the other as the open classroom option available to families in a middle class, racially mixed neighborhood. These schools were part of a federally funded subsystem of alternative schools established by the city public school system as a pilot project for a system-wide program of educational alternatives.

Data were collected in the two classrooms at two time periods, fall and winter, in order to measure socialization effects. Each of six children in each of the two classrooms under observation was taped at ten minute intervals four times during each observational

period. The attempt was made to tape each child weekly and to tape the teacher once weekly across the range of classroom events.

Children were selected as "focal children" on the basis of sex and communicative performance in observed classroom interactions. Three boys and three girls in each setting were selected after three days of preliminary observation at the start of the school year in September. Children who were judged as "average" in their communication skills by their teachers were given primary consideration. However, any child whose voice presented potential taping and transcription problems because of a slight lisp or other articulation difficulty was eliminated from consideration. This list was further narrowed in an attempt to focus only upon children who had not attended preschool and who were first born, and preferably only children.

Data Collection Procedures

The classroom schedule, structured by the teacher, was a constraint upon efforts to obtain tapes of spontaneously occurring children's conversation. Spontaneous conversation of children was the focus of concern for two reasons. First, since the hope was to disrupt the life in the classrooms as little as possible, the precaution not to "catch" children engaged in negatively sanctioned interaction such as might occur during class meetings or story reading periods was strictly observed. Second, various theoretical constraints prompted the recording of conversation that children

were free to initiate without prompting by the teacher or other adult (Fogel, 1974). Activity time at the open school and liberty time at the traditional school were the daily occurring events that allowed for relatively free movement and verbal exchange among children. These periods were generally structured by the teacher to last at least an hour, though they might be extended for up to two hours or be cut back to half an hour or less if school events, assemblies, for example, or other scheduling constraints were operative.

Data Analysis Procedures and Reliability

Though the primary interest in the analysis of audio taped data was centered on identification of regulative strategies and appeals uttered by children (and teachers), other aspects of communication were measured before the analysis of language in the regulative domain was accomplished. Dan Fogel (1971) has suggested progressing from a primary analysis of natually occurring conversation together, more specific, finer-grained analysis. Fogel's orientation guides the conception of analysis of language code features at three levels, the first more global than the second, the second more global than the third. (See Figure 2)

At all three levels, each ten-minute transcript (N=125) served as the puzzle to piece together, or rather, to pick apart. No attempt was made to mask the data. Rather, as much contextual information as possible was supplied to guide coding efforts.

Transcripts for each focal child and teacher were ultimately arrayed in chronological order, providing a set of conversational patterns of each child's and each teacher's classroom experience across the two observation periods.

At Level I the organizing components (utterances) of conversation groupings were extracted from individual transcripts and coded. An utterance is a group of words spoken in sequence and expressing meaning. A conversation grouping is a group of utterances having communicative value. The grouping is comprised of an initiating utterance (I) and the responses to it which may follow. Conversation groupings are of two types. The first, the conversation unit (I) includes the initiating utterance (I) and all responses (R, NVR, CR, and CNVR) from all conversation particpatns which attach to it. The second, the nonconversation unit (NI), is an initiating utterance that is either not immediately responded to or is not responded to appropriately. Tallies were made for (1) focal child's initiations (Is), initiations not responded to (NIs), verbal responses (Rs), and nonverbal responses (NVRs), (2) all children's and teachers' Is, NIs, Rs, and NVRs and, (3) children's choral verbal responses (CRs) and nonverbal responses (CNVRs).[2]

The analysis at Level II was expressly concerned with domain or language function or what Wells terms sequence mode. With Wells it was thought "necessary to categorize... [conversation groupings]

2. Results for the nonverbal and choral responses are not reported as N's were consistently small in these categories.

Order of Analysis for Each 10 Minute Transcript

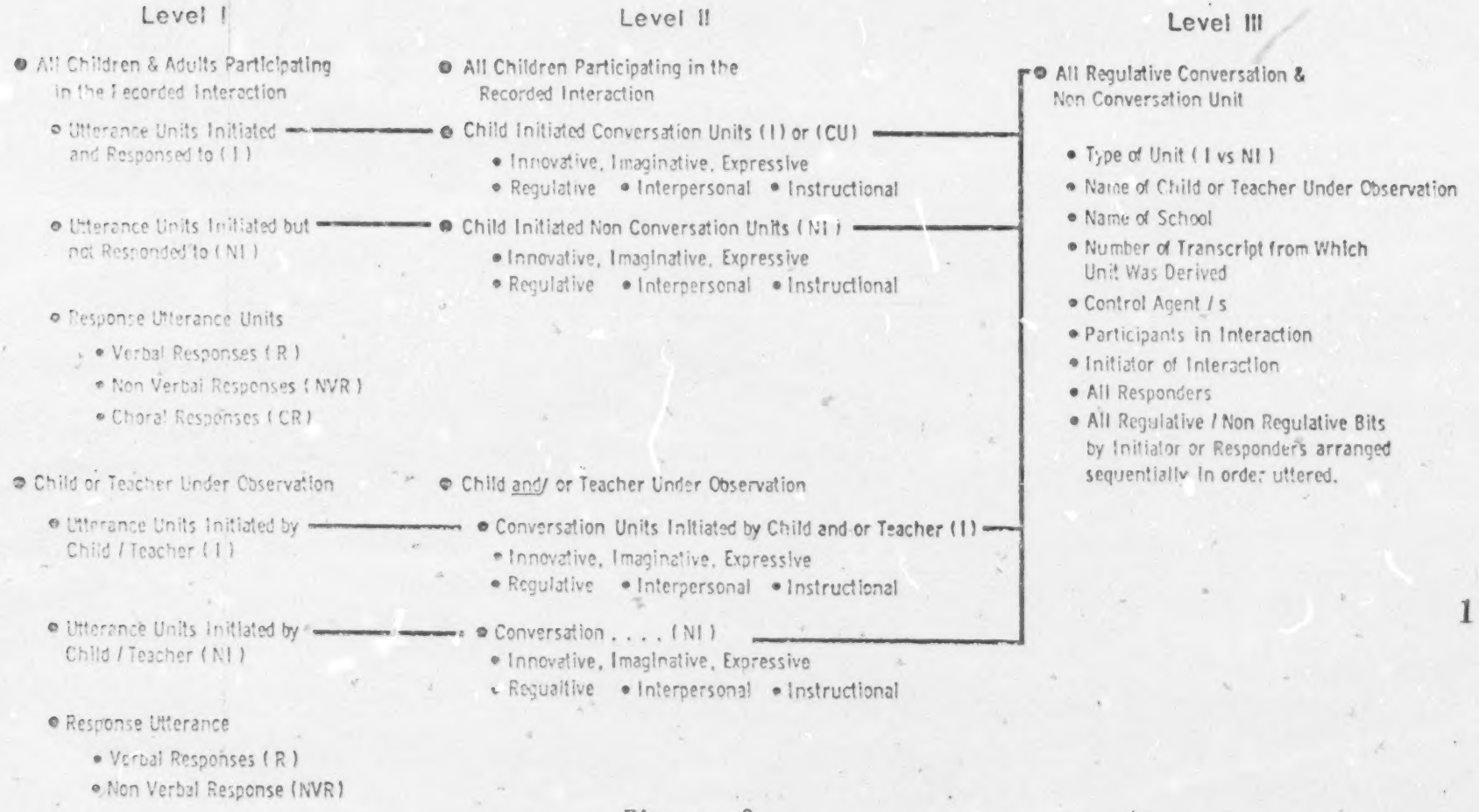
Level I
Level II
Level III
All Children & Adults Participating in the Recorded Interaction
Utterance Units Initiated and Responsed to (I)
Utterance Units Initiated but not Responded to (NI)
Response Utterance Units
Verbal Responses (R)
Non Verbal Responses (NVR)
Choral Responses (CR)
Child or Teacher Under Observation
Utterance Units Initiated by Child / Teacher (I)
Utterance Units Initiated by Child / Teacher (NI)
Response Utterance
Verbal Responses (R)
Non Verbal Response (NVR)
All Children Participating in the Recorded Interaction
Child Initiated Conversation Units (I) or (CU)
Innovative, Imaginative, Expressive
Regulative • Interpersonal • Instructional
Child Initiated Non Conversation Units (NI)
Innovative, Imaginative, Expressive
Regulative • Interpersonal • Instructional
Child and/ or Teacher Under Observation
Conversation Units Initiated by Child and or Teacher (I)
Innovative, Imaginative, Expressive
Regulative • Interpersonal • Instructional
Conversation . . . . (NI)
Innovative, Imaginative, Expressive
Regualtive • Interpersonal • Instructional
All Regulative Conversation & Non Conversation Unit
Type of Unit (I vs NI)
Name of Child or Teacher Under Observation
Name of School
Number of Transcript from Which Unit Was Derived
Control Agent / s
Participants in Interaction
Initiator of Interaction
All Responders
All Regulative / Non Regulative Bits by Initiator or Responders arranged sequentially in order uttered.

Figure 2

according to their dominant purpose." (Wells, 1975c: 37) Groupings coded as conversation units (CUs or Is) or nonconversation units (NIs) at Level I were sorted into one of four categories: regulative, instructional, innovative-imaginative-expressive, and interpersonal. Frequency counts were made across categories for (1) focal child's or teacher's groupings, (2) all children's groupings, and (3) when appropriate, the teacher and other adults' groupings classed as either CUs or NIs.

Level III analysis was expressly focused upon the utterances within regulative groupings classes as either I or NIs. Wells terms this level descriptive of "the act that a particular utterance performs," citing Austin's theoretical work elucidating the concept "speech acts". (Wells, 1975c: 39) Garvey's recent research (1975) has examined the specific act of wanting (one of 38 regulative categories in the present research), drawing upon the same theory.

Following Bernstein and relying upon the empirical work of Bearison and Cassel (1975), a set of categories (01, 02, 04-11, 13-16, 26, 27, 28, 29) were derived for inclusion for analysis of regulative strategies and appeals. These regulative appeals derive from Bernstein's distinctions among types of elaborated control codes. The basic distinction is between an appeal that is based upon a contingency and one that is not contingency-based. Among contingency-based appeals are person orientations with (1) regulator, (2) the target or (3) an other as the referent and position orientations

with a norm as the referent. Imperatives constitute the group of strategies without expressed contingencies. The bribe and occassionally the threat are specific control appeals that may have an implicit contingency.

Our knowledge of our data as it was validated by Wells' coding system supplied another group of regulative categories (18-23, 51-54) and the important set of categories for coding nonregulative utterances (34-44). The first group (18-23) is similar to norm referenced appeals (13-17) but inculcate a natural law or set of conditions potentially or actually affected by an ongoing or future action. The second group (51-54) are a subset of imperatives. These appeals constitute a "softer", less harsh body of imperatives than those derived from Bernstein. Finally, the data itself dictated the inclusion of another group of categories (03, 47, 12, 17, 24, 30-33). Categories numbered 03, 12, and 17 are similar to the target inquiry category (08) derived by Bearison and Cassel from Bernstein's theory. Category 47 is expressive of a contingency for <u>other</u> precisely like the contingency for <u>target</u> expressed with category 07. Regulative declaratives (30-33) are statements that have rather ambiguous regulative meaning but that are clearly expressive of social control of behavior. Common sense demanded inclusion of categories 45 and 46.

Context of situation information was coded for each <u>regulative grouping</u> (N=3,596) such that account was made for (1) season, fall

versus winter; (2) school, traditional versus open (3) participants in the interaction, child/adult dyad versus child/child dyad versus child/child/adult triad versus child/child/child/ren/adult [3] small group versus adult/whole class versus child/whole class; (4) focal child or teacher being taped (5) sex of child/ren participating in interaction; (6) controlling agent/s in interaction (adult/child [conjoint] versus child/ren versus adult)

Data were grouped according to the time period during which they were collected in order to discuss socialization effects. Differences in socialization effects were ascertained by carrying out analyses by sex and school. Teachers' data were generally analyzed separately in order not to confound results probing differences along dimensions of children's communication. Subsequent data analysis involved frequency counts for all variables (N=28) at Levels I and II. T-tests were conducted where appropriate to assess season, school, teacher and sex differences.

Data analysis at Level III involved frequency counts of utterances categorized as (1) regulative strategies (N=38 categories), (2) nonregulative items (N=11 categories), and (3) those not classifiable in either category (N=2 categories). For other analyses including both frequency counts and cross tabulations, the data were grouped (Figure 3). The groupings were made with two guiding criteria in mind: (1) theoretical appropriateness of item inclusion, and

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3. Results for this set of analyses will not be reported. The author has published these results elsewhere.

Figure 3

CATEGORIES OF REGULATIVE APPEALS

Orientation	Group	Contingency	Category	Code Number
Person Orientation	Group I	Regulator:	a) Reflexive	01
			b) Target-Action	02
			c) Regulator-Inquiry	03
	Group II	Target:	a) Reflexive	04
			b) Target-Action	05
			c) Regulator-Action	06
			d) Regulator-Target Action	07
			e) Target-Inquiry	08
	Group III	Other:	a) Reflexive	09
			b) Target-Action	10
			c) Regulator-Action	11
			d) Regulator-Target Action	47
			e) Other-Inquiry	12
Position Orientation	Group IV	Norm:	a) Prescriptive	13
			b) Target-Action	14
			c) Reflexive-Action	15
			d) Regulator-Target Action	16
			e) Norm-Formulation Inquiry Target-Reflexive	17

Orientation	Group	Contingency	Category	Code Number
	Group V	Conditions:	a) Prescriptive	18
			b) Target-Action	19
			c) Reflexive-Action	20
			d) Regulator-Target Action	21
			e) Conditions-Formulation Inquiry Target-Reflexive	22
Imperative	Group VI	None	a) Ritual Cue/Signal	23
			b) Attention-Getter	24
	Group VII	None	a) Permission Granted/Denied	51, 52
			b) Suggestion	53
			c) Inquiry/Request	25
			d) Wanting	54
	Group VIII	None	a) Command	26
			b) Threat	27
			c) Taunt	28
			d) Bribe	29
Declaratives	Group IX	None	a) Self Referenced	30
			b) Other Referenced	31
			c) Self with Reference to Others	32
			d) Norm Referenced	33

(2) ecological validity of item inclusion based on observation of the usual function of the item in the context of classroom interaction. Nine groupings of regulative utterances, three groupings of nonregulative utterances, and one grouping of non-classifiable and independent utterances were derived.

At all levels of analysis, individual transcripts were (1) analyzed independently by two of three coders and (2) data were analyzed by at least one and most often by two of the investigators who had been present at the time of taping the individual transcript in question. Hoyt (1941) intraclass correlations indicate an overall reliability quotient of .92 for Level I categories. A percent agreement for Level II data categories was 87%. A subset of 100 regulative conversation groupings selected at random from all data (N=5,894) indicate a percent agreement of 92% for data at Level III.

Results

With one exception (at Level II), results are reported for children's transcripts only (N=93). Results are presented according to findings at each level of analysis (Levels I - III). Findings are discussed by season (fall v. winter), school program (open v. traditional), and by sex.

Level I. For each dependent variable (i.e., winter and fall production of conversation units, I; non-conversation units, NI; and response units, R) a set of t-tests were computed. It was expected that conversation in some domains measured at Level II would

increase over time. Conversation in other domains (e.g., Regulative) were predicted to decrease by winter. Therefore, certain prediction about relative amount of conversation by season could not have easily been advanced. Results of three t-tests indicated statistically significant differences by season in the three categories of conversation produced by focal children in both schools. ($t = 2.66$ $p < .02$; $t = 2.15$, $p < .04$; $t = 2.46$, $p < .02$)

Table 1

Percents of Conversation Elements Uttered
by Focal Children by Season

	Fall	Winter	
Initiations Responded to (I Units)	10%	13%	
Initiations Not Responded (NI Units)	13%	20%	
Responses (R Units)	18%	26%	
Subtotals	41% (N=995)	59% (N=1460)	
Comparison by t-tests			
Initiations Responded to (I Units)	m=5.2	m=7.0	t=2.13*
Initiations Not Responded (NI Units)	m=6.9	m=10.4	t=2.66**
Responses (R Units)	m=9.6	m=13.7	t=2.46**

* $p < .04$, two tailed test
** $p < .02$, two tailed test

It was expected that open classroom children would engage in more successful conversation-making (I-units) and more interactive conversation (I-units and R-units) generally in comparison with children in the traditional program who were expected to initiate more unsuccessful conversation attempts (NI units). Though findings reflected the expected differences, only one comparison was significant. (Table 2) Children in the traditional program initiate more unsuccessful conversation than open program children, $t=3.47$ $p < .002$.

Table 2

The Significent Level I Contrast
by School Program (Open v. Traditional)

Focal Children		Open Program	Traditional Program
Initiations not responded to (NI units)	t=3.47	m= 6.5	11.0*

* p value $< .002$, two tailed test

Data grouped by sex and school program indicate a significant difference between girls at the two schools in the unsuccessful conversation (NI) category. Over both observation periods, traditional program girls initiated significantly more conversation that did not receive appropriate response than did their same sex counterparts in the open program, ($t= 2.507$, $p < .02$). A similar analysis performed with winter data for focal boys revealed a

significant contrast between boys in the traditional and boys in the open program, ($t = 2.599$, $p < .02$) along the same (NI) dimensions.

Level II. T-tests were performed for each dependent variable within each of two conversation dimensions analyzed at level I (I and NI). Analyses were made according to language function or domain (i.e., Regulative, Innovative-Imaginative-Expressive, Interpersonal, and Instructional) expressed in a given set of conversation groupings (e.g., traditional program boys' NI-units). It was predicted that both Regulative and Imaginative-innovative-expressive language would taper off by winter while conversation in the Instructional and Interpersonal domains would increase. There were no significant changes over time for focal children. However, when analyses were performed on data for focal children and all children recorded on transcripts of focal children, significant increases were noted in interactive conversation (I-units) in the Interpersonal domain, $t = 2.56$ $p < .02$, and unsuccessful conversation attempts (NI units) in three domain: the Regulative, $t = 2.23$ $p < .04$; the Innovative-imaginative-expressive, $t = 2.25$ $p < .04$; and the Instructional, $t = 2.80$ $p < .02$.

No significant results were obtained when data for children in the traditional program were compared with similar data for children in the open program. However, within school effects upon conversation domain were perceived when data were analyzed seperately by sex across season. Most dramatic seasonal effects were recorded

for traditional program boys, including focal boys and all children recorded on their transcripts.

Table 3

Significent Level II Season Contrasts:

Traditional Program		Fall Mean	Winter Mean
Focal Child - Initiations not Responded to (NI units)			
Innovative-Imaginative-Expressive Units	t=2.02	1.6*	4.8*
All Children/Focal Boys - Initiations Responded to (I/CU Units)			
Regulative Units	t=2.27	9.3*	15.5*
Innovative-Imaginative-Expressive Units	t=2.65	1.0**	2.8**
All Children/Focal Boys - Initiations Not Responded to (NI Units)			
Regulative Units	t=3.13	10.5***	25.6***
Innovative-Imaginative-Expressive Units	t=2.58	4.0**	11.2**

* p value < .04 two tailed test
** p value < .02 two tailed test
*** p value < .005 two tailed test

The only dependent variable for which significant results were obtained with focal boys' utterances was the category non-conversation units (NI-units) in the Innovative-Imaginative-Expressive domain, $t = 2.02$, $p < .04$. The most impressive seasonal differences

were for both Regulative and Innovative-Imaginative-Expressive functions in both conversation (I) and non-conversation (NI) classifications as utilized by both traditional classroom boys and their partners in interaction.

A single significant finding for traditional program girls was recorded in the non-conversation unit category (NI-units) for all children including focal girls recorded on traditional program girls' transcripts, $t = 2.21$, $p < .04$.

Table 4

Significant Level II Season Contrasts:
Traditional Program Girls

Traditional Program Girls' Transcripts		Fall Mean	Winter Mean
All Children/focal Girls - Initiations Not Responded to (NI Units)			
Instructional Units	t= 2.21	m= 1.8*	m= 4.7*

* p value $< .04$, two tailed test

Most pronounced seasonal effects upon conversation domain were recorded for open program boys. As predicted, conversation in the Instuctional domain increased for focal boys in both their successful and unsuccessful (NI-Units) conversation (I-Units) attempts, $t = 3.39$, $p < .02$; $t = 2.60$ $p < .02$. Increased output in conversation (I-units) in the Interpersonal domain was also significant for focal boys,

t= 2.17, $p < .05$, and for conversation (I-Units) in the Interpersonal domain for focal boys and their classmates recorded on focal boys' transcripts, t=2.17, $p < .02$.

Table 5

Significant Level II Season Contrasts:
Open Program Boys

Open Program Boys' Transcripts		Fall Mean	Winter Mean
Focal Child - Initiations Responded to (I/CU Units)			
Interpersonal Units	t=2.17	m= .1*	m= 2.1*
Instructional Units	t=3.39	m= .4**	m= 1.9**
Focal Child - Initiations Not Responded To (NI Units)			
Instructional Units	t=2.60	m= .4**	m= 2.0**
All Children/Focal Boys - Initiations Responded To (I/CU Units)			
Interpersonal Units	t=2.17	m= .7**	m= 4.7**

* p value .05 two tailed test
** p value .02 two tailed test

Negligible seasonal effects upon conversation domain were recorded for open classroom girls and their interactants. No significant results were present along any of the Level II dimensions.

Level III. For each dependent variable (ie., the regulative "bits" coded from Regulative conversation groupings), data were

organized according to type of appeal (e.g., target-Oriented appeal) and a set of cross tabulations were computed. Data are presented by season (fall v. winter) and sex within school program (traditional v. open).

It was expected that children in the open program would tend to be socialized to use appeals with a "person" orientation. The most dramatic changes in control techniques used by girls in the open program occurred in Group I (Regulator-Oriented) contingency statements. (Table 6) There is a notable drop in production of Group IV (Norm-Contingent) appeals among both boys and girls in the open program. Smaller gains by open program children were recorded in Groups II (Target-Contingent), V (Conditions-Contingent), VI (Cues), VII (Regulative Soft Appeals) and IX (Regulative Declaratives). Declines in Group VIII (Regulative Hard Appeals) were also noted. Chi square = 30.09, p= .0002 and X indicating significant differences in regulative appeals within each time period for boys and girls within the open program.

Data for traditional program children depict a more stable regulative scene. The largest percent change was recorded in Group IX (Regulative Declarative) strategies used by traditional program children of both sexes. Increases in Group II (Target-Oriented) appeals, Group IV (Norm-Oriented), and Group VIII (Hard Regulative) contrast with declines in these categories documented for children in the open school program. The first and third

findings were expected and seem to illustrate traditional children's socialization to a pattern of regulative strategies emphasizing a position orientation. The second reported increase in Group II strategies, articulating a person referenced value code was unexpected.

It had been predicted that all children's regulative appeals would generally explicit and unelborated. The modal regulative appeal is the Command. The next most frequently used appeal is similarly direct. It is the attention getter, e.g., Hey. The self-referenced Declarative , e.g., That's mine or I'm squished is a frequently used streategy.

Table 6

REGULATIVE APPEALS: PERCENTAGES OF ALL BITS BY SEASON, SCHOOL AND SEX, GROUPED FOR ALL CHILDREN

	Regulative Appeal Groups[c]	Open Program[a] Boys	Open Program[a] Girls	Traditional Program[b] Boys	Traditional Program[b] Girls
Fall					
No Explicit Appeal	(Regulator-Oriented (I)	1.5	.1	1.1	1.3
	(Target-Oriented (II)	1.0	.1	.3	.8
	(Other-Oriented (III)	.6	.1	.1	1.4
Postion Orien-ted	(Norm-Oriented (IV)	1.5	1.3	.3	.5
	Conditions-Oriented (V)	.1	.6	.5	.6
	(Cues (VI)	13.3	5.8	10.3	9.7
	(Soft Imperative (VII)	12.0	6.7	4.9	8.5
	(Hard Imperative (VIII)	11.9	12.0	19.6	14.0
	(Declaratives (IX)	17.3	13.6	14.4	11.5
	Subtotals	59.4	40.6	51.8	48.2

[a] $\chi^2 = 30.09$, 8 df, p value = .0002
[b] $\chi^2 = 36.01$, 8 df, p value = .0001
[c] For a listing of all groups, see figure 3
[d] Base N for percentage

Winter					
Person Oriented	(Regulator-Oriented (I)	.8	1.9	.8	.7
	(Target-Oriented (II)	.4	.8	.4	.3
	(Other-Oriented (IV)	.4	.3	1.1	.5

Table 6 Continued

REGULATIVE APPEALS: PERCENTAGES OF ALL BITS BY SEASON, SCHOOL AND SEX, GROUPED FOR ALL CHILDREN

	Regulative Appeal Groups [c]	Open Program [a] Boys	Open Program [a] Girls	Traditional Program [b] Boys	Traditional Program [b] Girls
	Winter cont.				
No Explicit Appeal	(Norm-Oriented (IV)	.8	.9	.8	.5
Postion Oriented	Conditions-Oriented (V)	3.3	.4	1.0	.7
	(Cues (VI)	14.6	9.1	14.1	6.8
	(Soft Imperative (VII)	9.8	8.1	7.7	3.9
	(Hard Imperatives (VIII)	9.6	8.2	21.3	8.9
	(Declaratives (IX)	17.4	13.2	21.1	9.5
	Subtotal	57.1	42.9	68.3	31.8

[a] χ^2 = 32.59, 8 df, p value = .001
[b] χ^2 = 6.72, 8 df, n.s.
[c] Base N for percentage.

Discussion

The results of this study of socialization effects upon the communicative patterns of young children have implications for the study of naturally occurring interaction, specifically that of young children in socializaing situations within the school. In addition, and perhaps more importantly, the results have utility for those engaged in work with young children--the early childhood educator and curriculum maker.

First, seasonal or time effects are marked, indicating that school experience does seem to make a difference at least in terms of children's output of conversation. Changes in conversation function and mode of control as socialization effects are more obscure.

Conversation production fairly stampedes away with itself by winter. Children and their adult overseers are both initiating and responding to more conversations of most sorts by winter. This is true in both classrooms observed. This finding seems to depict very real socialization effects in that children seem to have become comfortable conversational denizens of the classroom by winter.

Open classroom children were observed to increase their production of language with both instructional and interpersonal functions while traditional program children, specifically traditional program boys, increased production of conversation with both regulative and

imaginative-innovative-expressive functions. Traditional program girls' instructional language also increased. Lanugage function appears to be more dependent upon the nature of the activity engaging the child than upon socialization effects over time. This latter finding is of consequence to early childhood educators particularly. If one's pedagogical orientation emphasizes growth in basic skills as important for children, clearly one would minimize blockroom or loft play and mazimize small group project work opportunities.

The mode of control that a child will employ in January is heavily dependent upon the mode he or she used in the fall. Rather than being an individual differences phenomenon, this condition appears to reflect uniform developmental attributes as well as situational features. Though patterns of control altered during the course of the school year, no drastic changes occurred. Children did not move from a tendency to employ imperatives to a general use of contingency-based appeals. Rather, the predominance of simple strategies in the fall was recorded again in the winter. An implication for those involved in study of language development of young children is the probable developmental phenomenon observed. Children, though they are developmentally in a critical transitional period (Piaget, 1926) during their kindergarten experience, cannot be expected to show large scale shifts over the course of the year in terms of the complexity of their regulative strategies. Addition-

ally, the classroom context appears to dictate a kind of control strategy that is terse and telegraphic: witness the appeals used by the children's overseers in the classroom.

Children's complex appeals were generally quite stable in terms of frequency of occurrence of these strategies, yet certain shifts were apparent. These shifts have perhaps as much to do with activities pursued by recorded children as they do with classroom socialization effects over time. Children will tend to use Conditions Referenced appeals if they are manipulating objects and engaged in purposeful construction projects with cognitively challenging materials.

Other results combined with those summarized above point to what appear to be critically important school effects upon patterns of interaction. Children have a tendency to engage in regulative conversation that involves their participation in small group interaction. Children in the classrooms observed spent almost no time involved in dyadic conversation with either an adult or another child. Instead, groups of more than three, not featuring the conversational participation of an adult, were the norm in both classrooms. While some research and theory (Bruner, 1974) emphasize the importance of adult engagement with children to enhance language skill acquisition, other research (Heider, 1971) may make this supposition unwarranted. If children among themselves take pains to clarify their regulative demands and if conversation is extensive (as opposed to lacking

adequate response), it may be that children's communicative growth can be promoted without adult "interference."

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